

IN THE CLAIMS:

Claim 22 was previously canceled. Claim 10 has been amended herein. All of the pending claims 1 through 21 and 23 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of the Claims:

1. (Original) A method of directing integration of a nucleic acid of interest to a predetermined site, wherein said nucleic acid has homology at or around said predetermined site, in a eukaryote with a preference for nonhomologous recombination, said method comprising:
steering an integration pathway towards homologous recombination.
2. (Original) The method of directing nucleic acid integration according to claim 1, further comprising: providing a mutant of a component involved in nonhomologous recombination.
3. (Previously Presented) The method of directing nucleic acid integration according to claim 1, further comprising: inhibiting a component involved in nonhomologous recombination.
4. (Previously Presented) The method according to claim 2 wherein said component involved in nonhomologous recombination comprises *ku70*, *rad50*, *mre11*, *xrs2*, *lig4* or *sir4*.
5. (Previously Presented) The method of directing integration of a nucleic acid of interest to a predetermined site according to claim 1, wherein said nucleic acid of interest is essentially replacing a sequence within said eukaryote.
6. (Original) The method of directing integration of a nucleic acid of interest to a predetermined site according to claim 5, wherein said component involved in nonhomologous recombination comprises *rad50* or *xrs2*.

Serial No. 10/601,084

7. (Original) A method of directing integration of a nucleic acid of interest to a subtelomeric region, a telomeric region, or a subtelomeric region and telomeric region in a eukaryote with a preference for nonhomologous recombination by providing a mutant of a component involved in nonhomologous recombination.

8. (Original) A method of directing integration of a nucleic acid of interest to a subtelomeric region, a telomeric region, or a subtelomeric region and telomeric region in a eukaryote with a preference for nonhomologous recombination, comprising inhibiting a component involved in nonhomologous recombination.

9. (Previously Presented) The method of directing integration according to claim 7 wherein said component involved in nonhomologous recombination comprises *rad50*, *mre11* or *xrs2*.

10. (Currently amended) The method according to claim 1 wherein said eukaryote is selected from the group consisting of yeast, fungus, a plant, and an animal.

11. (Previously Presented) The method according to claim 1, wherein said nucleic acid of interest is delivered to a cell of said eukaryote by *Agrobacterium*.

12. (Previously Presented) The method according to claim 1 comprising transiently inhibiting integration via nonhomologous recombination.

13. (Original) The method according claim 12 wherein said transiently inhibiting is provided by an *Agrobacterium* Vir-fusion protein capable of inhibiting a component involved in nonhomologous recombination.

14. (Original) The method of directing integration according to claim 13 wherein said *Agrobacterium* Vir-fusion protein comprises VirF or VirE2.

Serial No. 10/601,084

15. (Previously Presented) The method according to claim 13 wherein said component involved in nonhomologous recombination comprises *ku70*, *rad50*, *mre11*, *xrs2*, *lig4* or *sir4*.

16. (Previously Presented) The method according to claim 1 wherein said nucleic acid of interest comprises an inactive gene to replace an active gene.

17. (Previously Presented) The method according to claim 1, wherein said nucleic acid of interest comprises an active gene to replace an inactive gene.

18. (Previously Presented) The method according to claim 1, wherein said nucleic acid of interest encodes a therapeutic proteinaceous substance.

19. (Previously Presented) The method according to claim 1, wherein said nucleic acid of interest encodes a substance conferring resistance for an antibiotic substance to a cell.

20. (Previously Presented) The method according to claim 1, wherein said nucleic acid of interest confers a desired property to said eukaryote.

21. (Previously Presented) The method according to claim 1 wherein said nucleic acid of interest is part of a gene delivery vehicle.

22. (Canceled)

23. (Previously presented) The method of directing integration according to claim 8 wherein said component involved in nonhomologous recombination comprises *rad50*, *mre11* or *xrs2*.